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**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: A8494

Tom Thuan CHEUNG

Appln. No.: 09/364,370

Group Art Unit: 2126

Confirmation No.: 9357

Examiner: The T. HO

Filed: July 30, 1999

For: OBJECT IN, OBJECT OUT TECHNIQUE

**SUBMISSION OF APPEAL BRIEF**

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an Appeal Brief. The USPTO is directed and authorized to charge the statutory fee of \$500.00 and/or all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: February 8, 2005



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**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

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Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

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**I. REAL PARTY IN INTEREST**

The real party in interest in this appeal is International Business Machines Corporation (“IBM”) of Armonk, New York, the assignee.

**II. RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences known to Appellant, Appellant's legal representative, or the assignee that will directly affect or be directly affected by, or have a bearing on, the Board's decision in this appeal.

**III. STATUS OF CLAIMS**

Claims 1-30 are the claims pending in the application and are the subject of this appeal.

Claims 1-30 stand finally rejected. A copy of the claims on appeal is set forth in an attached Appendix.

**IV. STATUS OF AMENDMENTS**

No amendments have been submitted after the filing of an Appeal Brief on June 25, 2003. All amendments are believed to have been previously entered and made of record. A response under 37 C.F.R. § 1.116 was filed on November 8, 2004, in response to a Final Office Action dated September 8, 2004. In an Advisory Action dated January 6, 2005, the Examiner states that the Response filed November 8, 2004 has been considered but did not place the application in a condition for allowance.

**V. SUMMARY OF THE CLAIMED SUBJECT MATTER**

Appellant's invention as recited in, for example, independent claims 1, 11 and 21, is related to object oriented methods, apparatuses, and articles of manufacture for processing input objects to generate output objects.

In many software development environments, one or more development teams work on components of a system that must interface with systems developed by other development teams. In conventional environments each team must understand the logic of the systems that depend on the components being developed by those teams. For example, a team responsible for maintaining a banking system that accesses a database must be aware of the developments being made by the team responsible for the database. In these conventional environments someone from each development team must understand the internal logic of functions within the other system to ensure that the components interface properly. *See* page 1 of the specification. Accordingly, there is a need to process an input object, from one of the teams, to generate an output object that is compatible with the other development team's system to eliminate the need for knowledge in each team of the internal workings of the other team's system.

That problem is solved by using an input object that contains both data and a function that is executable on a computer. A controller object receives the input object, determines the object's type, and based on the object type ascertains whether the object satisfies requirements for that type of object. If it does satisfy those predetermined requirements, the function contained within the input object is executed to produce an output object. *See* page 8, line 24- page 9, line 7 of the specification; Fig. 3.

An example use of the techniques described in the application is set forth at page 7 of the specification. In this example one team of developers is developing a product that works with a server that is developed by another team. Here, the team developing the product defines an input object that can be used by the server team. The product team creates functions that are contained in the input object and defines the data that must be input to those functions. The server team uses the input object to supply information to the product team. The product team receives the input object, executes the internal functions to generate data compatible with the server team's server system.

Referring to Fig. 3, an example of the input object 300 is received by a controller object 302 that uses the data and functions within the input object to generate an output object 304. The output object provides the input information in a form that is usable with a system being developed by a team other than the team using the input object. In this manner, the internal workings of separate systems that must interface with each other need not be mastered by other development teams.

**Claim 1**

A method of producing an output object 204 consistent with an exemplary embodiment of the present invention comprises receiving an input object 300 (Fig. 3; Fig. 4, step 400), wherein the received input object contains input data and one input function (Fig. 3) executable on a computer; determining a type of the received input object (Fig. 4, step 402); based on the determined type, ascertaining whether the received input object satisfies one or more predefined requirements (Fig. 4, step 404); and when it is ascertained that the received input object 200



satisfies each predefined requirement, executing the input function on a computer (Fig. 4, steps 406).

**Claim 11**

An apparatus for producing an output object 204 consistent with an exemplary embodiment of the present invention comprises a computer 104 (Fig. 1); one or more computer programs 110 (*See* page 6, lines 3-4), performed by the computer, for receiving an input object 200, wherein the received input object contains input data and one input function (Fig. 3) executable on a computer, determining a type of the received input object (Fig. 4, step 402), based on the determined type, ascertaining whether the received input object satisfies one or more predefined requirements (Fig. 4, step 404), and when it is ascertained that the received input object satisfies each predefined requirement, executing the input function on a computer (Fig. 4, step 406).

**Claim 21**

An article of manufacture consistent with an exemplary embodiment of the invention comprises a computer program carrier readable by a computer and embodying one or more instructions executable by the computer to perform method steps for producing an output object. The method includes the steps of receiving an input object (Fig. 4, step 400), wherein the received input object contains input data and one input function (Fig. 3, 300) executable on a computer; determining a type of the received input object (Fig. 4, step 402); based on the determined type, ascertaining whether the received input object satisfies one or more predefined

requirements (Fig. 4, step 404); and when it is ascertained that the received input object satisfies each predefined requirement, executing the input function on a computer (Fig. 4, step 406).

**Claims 12 and 17**

Claim 12 recites that “the means of ascertaining further comprises ascertaining whether the received input object satisfies one or more predefined requirements by executing one or more verification functions.” A controller object 302, for example, performs the verification process. *See* page 9, lines 16-17; Fig. 3. The verification process has two prongs. The first prong involves determining whether the input data passed into the controller object contains all the data necessary to execute the input function. *See* page 9, lines 17-19. The second prong involves determining whether there are any verification functions to be executed. *See* page 9, lines 26-27.

Claim 17 recites that “the means of receiving comprises receiving a plurality of input objects, wherein each received input object contains an input function, and wherein each input function has a predefined signature.” For example, the input object is passed to a controller object 302. *See* page 9, line 1. All input functions that are contained in an input object must have an identical signature. The controller object will only accept input functions that have this signature. The signature is defined during the specification phase. *See* page 11, line 19 to page 12, line 2.

**VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

1. Claims 1-3, 11-13 and 21-23 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Griesemer (U.S. Patent No. 6,385,660).
2. Claims 4-6, 14-16 and 24-26 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Griesemer in view of Allen (U.S. Patent No. 6,658,625).
3. Claims 7-8, 17-18 and 27-28 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Griesemer in view of Yokote (U.S. Patent No. 6,138,140).
4. Claims 9, 19 and 29 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Griesemer in view of Yokote and further in view of Aditham (U.S. Patent No. 6,378,001).
5. Claims 10, 20 and 30 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Griesemer in view of Yokote and further in view of Nakai (U.S. Patent No. 6,253,248).

## VII. ARGUMENT

### 1. Claims 1-3, 11-13 and 21-23 are patentable over Griesemer

As noted above, claims 1-3, 11-13 and 21-23 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Griesemer. It is respectfully submitted that claims 1-3, 11-13 and 21-23 are patentable over Griesemer for at least the following reasons.

#### A. Claims 1-3, 11-13 and 21-23

Appellant traverses the rejection at least because Griesemer does not disclose the claim limitation of “based on the determined type ascertaining whether the received input object satisfies one or more predefined requirements.”

Claim 1 recites “determining a type of the received input object.” The Examiner asserts that Griesemer’s disclosure of verifying that the received object is of the saved predicted receiver type 505 (of class A) teaches this aspect of claim 1. *See* page 2, para. 3 of Office Action.

Claim 1 further recites “based on the determined type, ascertaining whether the received input object satisfies one or more predefined requirements.” The Examiner asserts that Griesemer’s teaches this limitation of claim 1 because Griesemer’s discloses that a prolog portion 455 of a method 453 (*see* Fig. 8) “checks if the object x is of the saved receiver type,” and because Griesemer discloses that, in the example shown, the stored receiver type is a class A object. The Examiner appears to take the position that determining whether object x is of class A teaches “ascertaining whether the received input object satisfies one or more predefined requirements.” However, the Examiner already relies on that portion of Griesemer for allegedly teaching the “determining a type of the received input object” language of claim 1.

Consequently, the rejection is deficient since the same aspect of the Griesemer reference is cited for teaching two different elements of the claimed invention.

Further, it is respectfully submitted that determining the class to which an object belongs does not teach “ascertaining whether the received input object satisfies one or more *predefined requirements*.” In particular, an object x is not required to belong to a class A, since class A is merely one of many classes (i.e. class B, class C) to which object x can belong. Therefore, the mere fact that an object can belong to a particular class, does not constitute a predefined requirement as recited in claim 1.

For at least the above reasons, claim 1 and its dependent claims are patentable. Since claims 11 and 21 recite similar elements, claims 11 and 21 and their dependent claims are patentable for at least the same reasons.

**2. Claims 4-6, 14-16 and 24-26 are patentable over Griesemer in view of Allen**

Claims 4-6, 14-16 and 24-26 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Griesemer in view of Allen.

**B. Claims 4-6, 14-16 and 24-26**

It is respectfully submitted that claims 4-6, 14-16 and 24-26 are patentable at least by virtue of their dependency from claims 1, 11 and 21, for the reasons set forth above. Moreover, it is respectfully submitted that Allen does not cure the deficiencies of Griesemer.

**3. Claims 7-8, 17-18 and 27-28 are patentable over Griesemer in view of Yokote**

Claims 7-8, 17-18 and 27-28 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Griesemer in view of Yokote.

**Claims 7-8, 17-18 and 27-28**

It is respectfully submitted that claims 7-8, 17-18 and 27-28 are patentable by virtue of their dependency from claims 1, 11 and 21, for at least the reasons set forth above. Moreover, it is respectfully submitted that Yokote does not cure the deficiencies of Griesemer.

**4. Claims 9, 19 and 29 are patentable over Griesemer in view of Yokote and further in view of Aditham**

Claims 9, 19 and 29 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Griesemer in view of Yokote and further in view of Aditham.

**Claims 9, 19 and 29**

It is respectfully submitted that claims 9, 19 and 29 are patentable by virtue of their dependency from claims 1, 11 and 21, for at least the reasons set forth above. Moreover, it is respectfully submitted that Aditham and Yokote do not cure the deficiencies of Griesemer.

**5. Claims 10, 20 and 30 are patentable over Griesemer in view of Yokote and further in view of Nakai**

Claims 10, 20 and 30 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Griesemer in view of Yokote and further in view of Nakai (U.S. Patent No. 6,253,248).

**Claims 10, 20 and 30**

It is respectfully submitted that claims 10, 20 and 30 are patentable at least by virtue of their dependency from claims 1, 11 and 21, for at least the reasons set forth above. Moreover, it is respectfully submitted that Nakai and Yokote do not cure the deficiencies of Griesemer.

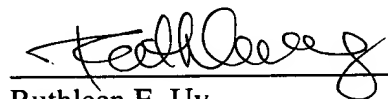
**VIII. CONCLUSION**

For the reasons set forth above, Appellant respectfully requests the members of the Board to reverse the rejections of the appealed claims and to find each of the claims allowable as defining subject matter that is patentable over the art of record.

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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Date: February 8, 2005



**CLAIMS APPENDIX**

**CLAIMS 1-30 ON APPEAL:**

1. A method of producing an output object, the method comprising the steps of:  
receiving an input object, wherein the received input object contains input data and one input function executable on a computer;  
determining a type of the received input object;  
based on the determined type, ascertaining whether the received input object satisfies one or more predefined requirements; and  
when it is ascertained that the received input object satisfies each predefined requirement, executing the input function on a computer.
2. The method of claim 1, wherein the step of ascertaining further comprises ascertaining whether the received input object satisfies one or more predefined requirements by executing one or more verification functions.
3. The method of claim 2, wherein a source code for each verification function is located in a predefined section of a controller object source code.
4. The method of claim 1, further comprising the step of producing an output object by using a result produced by the executed input function.
5. The method of claim 4, wherein the received input object is received from an application, and wherein the method further comprises the step of returning the output object to the application.

6. The method of claim 4, wherein the received input object is received from a user and wherein the method further comprises the step of returning the output object to the user.

7. The method of claim 1, wherein the step of receiving comprises receiving a plurality of input objects, wherein each received input object contains an input function, and wherein each input function has a predefined signature.

8. The method of claim 7, wherein the method further comprises the step of regulating a flow of received input objects.

9. The method of claim 8, regulating the flow comprises storing some of the received input objects in a queue.

10. The method of claim 8, wherein regulating the flow comprises the steps of: returning some of the received input objects to a sender; and requesting that the sender re-send the received input objects at a later time.

11. An apparatus for producing an output object, comprising:  
a computer;  
one or more computer programs, performed by the computer, for receiving an input object, wherein the received input object contains input data and one input function executable on a computer, determining a type of the received input object, based on the determined type, ascertaining whether the received input object satisfies one or more predefined requirements, and when it is ascertained that the received input object satisfies each predefined requirement, executing the input function on a computer.

12. The apparatus of claim 11, wherein the means of ascertaining further comprises ascertaining whether the received input object satisfies one or more predefined requirements by executing one or more verification functions.

13. The apparatus of claim 12, wherein a source code for each verification function is located in a predefined section of a controller object source code.

14. The apparatus of claim 11, wherein the apparatus further comprises one or more computer programs executing on the computer for producing an output object by using a result produced by the executed input function.

15. The apparatus of claim 14, wherein the received input object is received from an application, and wherein the apparatus further comprises one or more computer programs, performed by the computer for returning the output object to the application.

16. The apparatus of claim 14, wherein the received input object is received from a user, and wherein the apparatus further comprises one or more computer programs, performed by the computer for returning the output object to the user.

17. The apparatus of claim 11, wherein the means of receiving comprises receiving a plurality of input objects, wherein each received input object contains an input function, and wherein each input function has a predefined signature.

18. The apparatus of claim 17, wherein the apparatus further comprises one or more computer programs, performed by the computer for regulating a flow of received input objects.

19. The apparatus of claim 18, wherein regulating the flow comprises storing some of the received input objects in a queue.

20. The apparatus of claim 18, wherein the flow comprises:
- one or more computer programs, performed by the computer for returning some of the received input objects to a sender, and requesting that the sender re-send the received input objects at a later time.
21. An article of manufacture comprising a computer program carrier readable by a computer and embodying one or more instructions executable by the computer to perform method steps for producing an output object, the method comprising the steps of:
- receiving an input object, wherein the received input object contains input data and one input function executable on a computer;
- determining a type of the received input object;
- based on the determined type, ascertaining whether the received input object satisfies one or more predefined requirements; and
- when it is ascertained that the received input object satisfies each predefined requirement, executing the input function on a computer.
22. The article of manufacture of claim 21, wherein the step of ascertaining further comprises ascertaining whether the received input object satisfies one or more predefined requirements by executing one or more verification functions.
23. The article of manufacture of claim 22, wherein a source code for each verification function is located in a predefined section of a controller object source code.
24. The article of manufacture of claim 21, wherein the method further comprises the step of producing an output object by using a result produced by the executed input function.

25. The article of manufacture of claim 24, wherein the received input object is received from an application, and wherein the method further comprises the step of returning the output object to the application.

26. The article of manufacture of claim 24, wherein the received input object is received from a user, and wherein the method further comprises the step of returning the output object to the user.

27. The article of manufacture of claim 21, wherein the step of receiving comprises receiving a plurality of input objects, wherein each received input object contains an input function, and wherein each input function has a predefined signature.

28. The article of manufacture of claim 27, wherein the method further comprises the step of regulating a flow of received input objects.

29. The article of manufacture of claim 28, wherein regulating the flow comprises storing some of the received input objects in a queue.

30. The article of manufacture of claim 28, wherein regulating the flow comprises the steps of:

returning some of the received input objects to a sender; and

requesting that the send re-send the received input objects at a later time.

**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**  
Appln. No.: 09/364,370

**Attorney Docket No.: A8494**

**EVIDENCE APPENDIX:**

NONE.

**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**  
Appln. No.: 09/364,370

**Attorney Docket No.: A8494**

**RELATED PROCEEDINGS APPENDIX**

NONE.